

Listing of Claims

This listing of claims will replace all prior versions, and listings, of claims in the application. Numbering of the claims in this listing is consistent with the renumbering of claims 19 and 20 as originally filed to claims 18 and 19 as noted by the Examiner in paragraph 3 of the office action. A new added claim 20 is provided

1. (currently amended) A surface cleaning device comprising:

 a cleaning component for placement on a first surface to be cleaned and having magnetic elements carried therein and,
 means for cleaning the surface;
 an actuating component for placement adjacent the cleaning component on a second surface opposite from the first surface and having a support means containing an actuator with complementary magnetic elements to the magnetic elements of the cleaning component for attraction thereof through the first and second surface,
 a motor operably attached to the actuator for inducing motion of the actuator, the motion of the actuator urging complementary motion of the cleaning component through magnetic attraction of the magnetic elements and complementary magnetic elements wherein the motor has a drive means and the actuator comprises a disc and means for engaging a circumference of the disc for mating to the drive means to rotate the actuator; and,
 means for powering the motor.

2. (original) A surface cleaning device as defined in claim 1 wherein the cleaning component comprises a unitary foam disc having a plurality of apertures radially spaced about an axis, the apertures sized to closely receive the magnetic elements, the foam disc having a first surface for engaging the surface as the means for cleaning the surface.

3. (original) A surface cleaning device as defined in claim 1 wherein the cleaning component comprises a substantially circular body incorporating means for carrying the magnetic elements and having a plurality of brushes extending from a first surface for engaging the surface as the means for cleaning the surface.

4. (original) A surface cleaning device as defined in claim 1 wherein the motor is a DC motor and the means for powering the motor comprises:

a battery; and
a switch for connecting the battery to the motor.

5. (original) A surface cleaning device as defined in claim 4 wherein the switch is a spring loaded contact switch.

6. (currently amended) A surface cleaning device as defined in claim 1 wherein the motor [has] drive means is a pinion gear and the [actuator comprises a disc incorporating] means for engaging the circumference comprises gear teeth on [a] the circumference of the disc for mating to the pinion gear to rotate the actuator.

7.(cancelled)

8. (currently amended) A surface cleaning device [as defined in claim 1] comprising:
a cleaning component for placement on a first surface to be cleaned and having
magnetic elements carried therein and,
means for cleaning the surface;
an actuating component for placement adjacent the cleaning component on a
second surface opposite from the first surface and having a support means containing
an actuator with complementary magnetic elements to the magnetic
elements of the cleaning component for attraction thereof through the first and
second surface,
a motor operably attached to the actuator for inducing motion of the
actuator, the motion of the actuator urging complementary motion of the cleaning
component through magnetic attraction of the magnetic elements and
complementary magnetic elements wherein the motor has an eccentric drive axle
and the actuator is mounted to the drive axle causing oscillatory reciprocating
motion of the actuator; and,
means for powering the motor.

9. (original) A surface cleaning device as defined in claim 6 further comprising a reversing circuit connected to the motor.

10. (currently amended) A surface cleaning device as defined in claim [7] 1 further comprising a reversing circuit connected to the motor.

11. (original) A surface cleaning device as defined in claim 2 wherein the means for cleaning the surface comprises an abrasive surface on the disc.

12. (original) A surface cleaning device as defined in claim 1 wherein the actuating component incorporates means for cleaning the opposite surface.

13. (original) A surface cleaning device as defined in claim 1 wherein the cleaning component comprises a sleeve having means for rotational support of a disc and wherein the magnetic elements are housed within the disc.

14. (currently amended) A surface cleaning device [as defined in claim 13] comprising:

a cleaning component for placement on a first surface to be cleaned and having
a sleeve including means for rotational support of a disc,
magnetic elements carried within the disc and,
means on the disc for cleaning the surface,
wherein the means for rotation support comprises a magnetic sphere constrained at a rotation point on the sleeve;

an actuating component for placement adjacent the cleaning component on a
second surface opposite from the first surface and having a support means containing
an actuator with complementary magnetic elements to the magnetic
elements of the cleaning component for attraction thereof through the first and
second surface,

a motor operably attached to the actuator for inducing motion of the
actuator, the motion of the actuator urging complementary motion of the cleaning
component through magnetic attraction of the magnetic elements and
complementary magnetic elements; and,
means for powering the motor.

15. (currently amended) A surface cleaning device as defined in claim [13] 14 wherein the sleeve further incorporates corner magnets and the actuating component further incorporates complementary corner magnets for attraction of the corner magnets of the sleeve.

16. (original) A surface cleaning device as defined in claim 15 wherein the corner magnets are of opposite polarity to the magnetic elements housed within the disc.

17. (currently amended) A surface cleaning device as defined in claim 13 wherein the sleeve is adapted for use in water and further incorporates integral buoyancy means for orienting the sleeve.

18. (currently amended) A surface cleaning device as defined in claim 13 wherein the sleeve further incorporates a sand guard depending from a main body of the sleeve for use of the invention in an aquarium cleaning capacity to space the disc from contact with a sand bottom.

19. (original) A surface cleaning device comprising:

a cleaning component for placement on a first surface to be cleaned and having

a sleeve incorporating a magnetic sphere at a rotation point and a plurality of corner magnets,

a cleaning disc having central aperture carrying a centering magnet attracted to and rotating on the magnetic sphere and further carrying a plurality of radially spaced magnetic elements, the disc having an abrasive surface element adjacent the first surface;

an actuating component for placement on a second surface opposite from the first surface adjacent the cleaning component and having a support means containing an actuation disc with complementary magnetic elements to the magnetic elements mounted in the cleaning disc for attraction thereof through the first and second surface,

a DC motor attached to the actuation disc by a circumferential belt drive for inducing rotation of the actuation disc, the motion of the actuation disc urging complementary motion of the cleaning disc through magnetic attraction of the magnetic elements and complementary magnetic elements,

a plurality of mating corner magnets of complimentary polarity to the corner magnets on the sleeve and supported by the support means in complementary spaced relation to the corner magnets on the sleeve for attraction thereof through the surface, the polarity of the corner magnets and mating corner

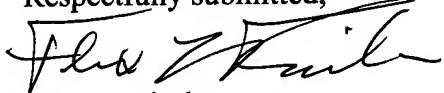
magnets opposite to the magnetic elements and complementary magnetic elements respectively;

batteries carried by the support means for powering the motor; and,
a switch for activating the motor.

20. (new) A surface cleaning device as defined in claim 1 wherein the motor drive means comprises a spool and the engaging means comprises a belt received in a groove on the circumference of the disc causing rotational motion of the disc.

Based on the amendments made and the argument provided, the applicants believe that all claims now pending in the application are in condition for allowance and action by the Examiner in that regard is requested.

Respectfully submitted,



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